Broadband Wireless Channel Measurements for High Speed Trains

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Abstract:

We describe a channel sounding measurement campaign for cellular broadband wireless communications with high speed trains that was carried out in the context of the project CORRIDOR. The campaign combines MIMO and carrier aggregation to achieve a very high throughputs. We compare two different scenarios, the first one reflects a cellular deployment, where the base station is about 1km away from the railway line. The second scenario corresponds to a railway deployed network, where the base station is located directly next the the railway line. We present the general parameters of the measurement campaign and some preliminary results of Power Delay Profiles and Doppler Spectra and their evolution over time.